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Quality and social responsibility: a pathway to the future

Oana Staiculescu^{a*}^aUniversity of Craiova, Faculty of Economics and Business Administration, Address 13, A.I.Cuza Street, Craiova, Postcode 200585, Romania

Abstract

Quality is a polyvalent concept, which transcends the desire to obtain economic benefits through an ethical manner, aiming not only for entrepreneurship, but also for social and environmental concerns. Basically, the interest falls upon the convergence of social responsibility with quality and also the management commitment to a new way of making a business successful. Social responsibility is an extensive topic, but also a part of the organizational culture of the company. In this context, top management objectives should target to maximize the positive impact, which the company has on society, and to minimize the negative effects. The consequences of such an approach can only be good for business, both financially and morally. The purpose of this article is to present a way for each company in order to promote equally quality and social responsibility as two essential components in ensuring a sustainable future for everyone.

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1. Introduction

In recent years, due to the many changes existing both globally and organizationally, the term "social responsibility" has become a frequently discussed topic among consumers and companies. For this reason, consumers have become more vigilant in purchasing products and services through their choice according to the production method. Referring to companies, instead of strategic objectives such as profitability, reliability and sustainability, it began to prevail actions, which effectively target social responsibility. Basic motto adopted by large organizations operating in the new trend consent seems to be "Doing well, by doing good". For this purpose, social responsibility is not a philanthropic option, but rather a new way of doing business.

2. Guidelines for quality and social responsibility. ISO 26000 on Social Responsibility

Quality is a polyvalent concept, which transcends the desire to obtain economic benefits through an ethical manner, aiming not only for entrepreneurship, but also for social and environmental concerns. Basically, the interest falls upon the convergence of social responsibility with quality and also the management commitment to a new way of making a business successful. Social responsibility is an extensive topic, but also a part of the organizational culture of the company.

* Corresponding Author: Oana Staiculescu. Tel.: +4-072-124-8244
E-mail address: oana.staiculescu@yahoo.com

In order to stay on the market in the current economic conditions, the company's orientation must meet customer needs without compromising the future. However, there should be taken into consideration a number of basically four factors, namely:

- **Financial factor**, has priority because without the assumption of profitability, shareholders become dissatisfied and will redirect the investments to another field of activity;
- **Social factor** is particularly important because a company must be concerned about the welfare of society considered as a whole. The interest for selling quality products and services, human rights, sales markets, working conditions and so on, should represent strategic objectives and constantly present for the top management;
- **Environmental factor**, or better **environmental management**, here we could include two other key factors converged to the basic idea of this article, namely: addressing energy security and reduction of greenhouse gas emissions;
- **Quality factor** that comes to embrace the three factors above, and also to help facilitate corporate approach to a better business.

Unlike traditional meaning, where the so-called industrial quality model emphasized on the conformity of products and services, control and standardization, in our days the priority is represented by the human being, or in other words: the consumer. The other aspect occupies somewhat a second place in the front of the social element, which prevails, and, from this perspective, arises the concern for the emergence of quality and social responsibility. By developing an effective program, obtaining an objective feedback and continuous improvement processes, companies will not only support social responsibility, but can achieve a considerable profit and a successful business.

Currently, many people make the mistake to believe that social responsibility refers to a series of actions to protect the environment or to provide considerable amounts of money to solve social cases. To solve this dilemma, the International Organization for Standardization has published in 2010 a new standard, namely ISO 26000: Guidance on Social Responsibility. Designed to assist companies, ISO 26000 is a guide that aims to transpose some real practical principles beneficial for the health and welfare of society. In other words, the standard complements and adds value to existing social responsibility initiatives in both the public and private sectors.

Contrast to ISO 9000, the standard for quality management, ISO 26000 does not contain specific requirements that businesses must comply and therefore is not certified. Basically, the standard aims at corporate governance to include principles, which refer directly to social responsibility. Ventures between social responsibility and quality that improve quality costs are real advantages that any world-class company cannot afford to not use them. According to ISO 26000 standard strategic decision-making processes should:

- Develop strategies, objectives and goals, which reflect management's commitment to social responsibility;
- Lead to the creation and protection of a healthy environment in which the principles of social responsibility are practiced;
- Create a system of economic and non-economic incentives on the performance of economic entities in terms of social responsibility;
- Rationally use of natural resources, financial and human resources;
- Determine the company's profit considering the results of accounting reflected by the emergence of management decisions and social responsibility.

Considering the above, management commitment regarding social responsibility should cover the following:

- Promoting and supporting the community in which it operates;
- Involvement in various programs designed to meet the social needs;
- Development projects in terms of environmental protection, supporting education, various actions aimed at socio-economic development, etc;
- Company's responsibility towards the people with which interacts: employees, customers, shareholders, suppliers, business partners, and so on;
- Engagement of the employees in the development and success of the company through their awareness and building a team spirit in order to ensure high quality products and services;
- Maintaining accountability to the community by providing quality products and services covering consumer needs;

- The careful use of dangerous substances in accordance with European directives and legislation.

In this context, top management objectives should target to maximize the positive impact which the company has on society and to minimize the negative effects. The consequences of such an approach can only be good for business, both financially and morally. Currently, the new model of leader, regardless of the activity field concerned, is characterized by the ability to create not only economic value but also value for society and the environment.

3. The cost of quality by achieving social responsibility in the automotive industry

Globally, between 1971 and 2010, CO₂ emissions have doubled, and in 2011 increased by 3% over the previous year, reaching a record high of 34 billion tonnes. Worrying trends of CO₂ emissions from burning fuels, illustrates the need for economic entities to be modelled on a more sustainable energy future. Special attention on this subject was adopted and the organizational culture of multinational companies, in addition to achieving significant revenue, is responsible for most emissions of this kind. An important role is held by the automotive industry, which occupies one of leading places in terms of CO₂ emissions.

Given the negative influence of the environment and climate of Transportation sector, the purpose of these regulations was to influence automotive market for the purposes of stimulating clean and energy efficient vehicles to have a positive impact on the environment. Basically the central idea revolves around a unitary idea to encourage producers and investors to develop this concept to reduce CO₂ emissions and other pollutants.

Romania joined the European initiative to encourage and stimulate market development of clean and energy efficient vehicles by adopting specific rules and regulations. Thus, through GEO no. 40 of 20.04.2011 it has provided the transposition of the Directive 2009/33/EC of the European Parliament and of the Council of 23.04.2009 on promotion of clean road transport vehicles and energy efficient. Under this Government Ordinance are found fiscal facilities granted by Romania for individuals, administrative units and public institutions, as follows:

- Through "The Program for Stimulating the Renewal of the National Car Fleet". If old cars are given for scrapping, when subvention is about "four vouchers for the purchase of electric vehicle, in exchange for disposing a used vehicle".

- If is not about scrapping old vehicles, the subvention is to receive a discount of up to 20% of the selling price of purchased electric vehicle, but no more than 3,700 Euros.

Developing sustainable products must be made as a link between the two concepts: social responsibility and quality. This strategy addressed by any economic entity inevitably affects the quality costs. As expected, the voluntary implementation of the ISO 26000 regarding social responsibility for the economic entities attracts a range of benefits and costs. In a first step, the association between quality and social responsibility can be a considerable increase revenue and reduce costs, but long-term reporting leads to ensure sound and sustainable sources of income. Quality of processes, products and services is not achieved only through technological performance but also through social responsibility, involving significant costs. Basically any cost made in order to achieve sustainable quality and which is in full accordance with the principles of accountability, represents a sure path to future profits. Usually, in the sense of social responsibility, investment cost can be translated into quality cost because innovations in the industry, with high-tech solutions, means less pollution, fewer resources and less space used.

Starting from the reality that, at least currently, the production of vehicles in order to meet this goal is more expensive, but stimulating the market demand for this (for Romania, in the first stage of the public sector) would lead to a much lower production cost. If we refer to the manufacturer's quality cost related to social responsibility, it will be measured in the energy and environmental performance, superior level of conventional cars. However, if we look at the cost of quality in customer management commitment conjunction with social responsibility, according to the needs and desires of customers, cost of quality will include: acquisition cost and operational cost of energy consumption, CO₂ emissions and pollutant emissions (assuming the costs related to the maintenance vehicle is covered by warranty). Basically, in terms of methodology, the three dimensions of operational cost can be calculated as follows:

1. The calculation for the operational lifetime cost of the energy consumption of a vehicle (CO_E) is done by multiplying the lifetime mileage (Km_v), with the energy consumption per kilometre (E) and by the cost per unit of energy (c_{ue}):

$$CO_E = Km_v \times E \times c_{ue} \quad (1)$$

2. The calculation for the operational lifetime cost for the CO₂ emissions of a vehicle (CO_{CO2}) is done by multiplying the lifetime mileage (Km_v) with the CO₂ emissions in kilograms per kilometre (e_{CO2}) and by the cost per kilogram (c_{CO2}):

$$CO_{CO2} = Km_v \times e_{CO2} \times c_{CO2} \quad (2)$$

3. The calculation for the operational lifetime cost for the pollutant emissions of a vehicle (CO_p) is done by adding up the operational lifetime costs for emissions of NO_x, NMHC and particulate matter. The operational lifetime cost for each pollutant is calculated by multiplying the lifetime mileage (Km_v), with the emissions in grams per kilometre (e_p) and by the respective cost per gram (c_p):

$$CO_p = Km_v \times e_p \times c_p \quad (3)$$

In the following, we will try to expose a suggestive example regarding the method of operational cost calculation. In view of this approach, the knowledge of specific data is an imperative for the investigation of the case study, thus we submitted for benchmarking three models of cars. Technical specifications for the three vehicles are similar, which is why the type of the fuel used represents the fundamental difference, namely: petrol, diesel and electric car where the source is lithium-ion battery.

Table 1. Input data for operational cost calculation

Explications	Passenger car 1.6 -Petrol-	Passenger car 1.6 -Diesel-	Electric passenger car - Lithium-ion battery-
Average fuel cost (Euro/l or Euro/kWh)	1,33	1,36	0,05895
Combined fuel-consumption (l/100km or kW-hrs/100km)	6,00	4,20	20,00
CO ₂ emissions (g/km)	139,00	109,00	0,00
Average CO ₂ cost** (Euro/t)	35,00	35,00	35,00
Nitrogen oxides - NO _x (g/km)	0,041	0,152	0,00
NMHC and particulate matter (g/km)	0,061	0,178	0,00
Lifetime*** (km)	200.000	200.000	200.000

* Fuel cost from Romania before tax from 11.02.2013. This cost was taken from the official website of the European Commission, Section Energy Market Observatory for Energy, namely: http://ec.europa.eu/energy/observatory/oil/bulletin_en.htm

** The average is in the range 30-40 Euro/t. In this case, we chose the conventional value of 35 Euro/t.

*** Default value for the average lifetime of a car.

The methodology of calculation the lifetime cost of the energy consumption of a vehicle will be applied further on. Therefore, taking into account the data from Table. 2, the quality cost of the customer can be calculated as being the sum of operational cost and purchase cost of the car minus subsidies granted by the Romanian state. Grants related to this issue are regulated in the Government Ordinance no 40 of 20.04.2011 on the Promotion of clean and energy-efficient road transport vehicles and will be covered by the Environment Fund.

Table 2. The cost of quality by achieving social responsibility

Cost category -Euro-	Passenger car 1.6 -Petrol-	Passenger car 1.6 -Diesel-	Electric passenger car - Lithium-ion battery-
Total fuel consumption cost	15.960,00	11.424,00	2.358,00
Average cost for CO ₂	835,20	654,00	0,00
Cost of pollutant emissions *	158,80	169,36	0,00
Total operational cost	16.953,28	12.247,36	2.358,00
Cost of acquisition (depending on options)	18.000,00-32.000,00	19.000,00-34.000,00	26.000,00-40.000,00
Subsidies**	-	-	3.700,00
Total quality cost	34.953,28-48.953,28	31.247,36-46.247,36	24.658,00-38.658,00

* The cost of pollutant emissions was calculated according to Table 2 - Cost of road transport emissions in the Annex to Directive 2009/33/CE.

*** Romanian state subsidies granted for the purchase of an electric car.*

4. Conclusions

As it can be seen from table above, the lowest operational cost per vehicle is registered in the 3rd case represented by the electric car. Basically, the cost of CO₂ and pollutants are equal to "0", and, although the acquisition cost may be sometimes higher compared to conventional cars, the final investment is certainly less. A rational allocation of social responsibility principles on the car industry reveals in fact superior quality at low cost. Therefore, we can conclude by the fact that each company is interested to promote equally quality and social responsibility as two essential components in ensuring a sustainable future for everyone.

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